

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte NELSON A. BLISH

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Appeal No. 96-1904  
Application 08/164,854<sup>1</sup>

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ON BRIEF

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Before McCANDLISH, Senior Administrative Patent Judge, and  
COHEN and STAAB, Administrative Patent Judges.

COHEN, Administrative Patent Judge.

DECISION ON APPEAL

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<sup>1</sup> Application for patent filed December 10, 1993.

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This is an appeal from the final rejection of claims 1 and 3 through 22. These claims constitute all of the claims remaining in the application.

Appellant's invention pertains to a computer keyboard. An understanding of the invention can be derived from a reading of exemplary claims 1, 8, 11, 14, 17, 20, and 22, copies of which appear in the appendix to appellant's revised brief (Paper No. 13).

As evidence of obviousness, the examiner has applied the documents listed below:

Hagelstein et al. 1963 (Hagelstein)	3,093,911	Jun. 18,
McCall	4,378,553	Mar. 29, 1983
Lahr	4,661,005	Apr. 28, 1987
Rader	5,122,786	Jun. 16, 1992
Louis	5,212,473	May 18, 1993
Goldstein 1992 (Published PCT Application)	WO 92/00851	Jan. 23,
Grosel	65,573	Feb. 20, 1969

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(Germany)<sup>2</sup> (Leipzig)<sup>3</sup>

IBM Technical Disclosure Bulletin, "KEYBOARD FOR HANDHELD COMPUTER," Vol. 27, No. 10A, pages 5643 through 5645, March, 1985 (IBM reference)

The following rejections are before us for review.

Claims 1 and 3 through 8 stand rejected under 35 U.S.C. § 112, first paragraph, for the reason that the specification, as originally filed, does not provide support for the recitation that the keyboard may be operated "independently of supporting surfaces" (claim 1).

Claims 20 and 21 stand rejected under 35 U.S.C. § 112, second paragraph, as being broad to the extent that they

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<sup>2</sup> Our understanding of this document is derived from a reading of a translation thereof prepared in the United States Patent and Trademark Office. A copy of the translation was appended to the examiner's answer (Paper No. 14).

<sup>3</sup> We will refer to this reference as the Leipzig document for consistency with the usage by both the examiner and appellant.

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fail to particularly point out and distinctly claim any structure.

Claims 1 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by each of McCall, Lahr, Rader, and Goldstein.

Claims 3 through 9, 11, 12, 14, 15, 17, 18, 21, and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over McCall, Lahr, Rader, and Goldstein in view of the IBM reference and Leipzig.

Claims 10, 13, 16, and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over McCall, Lahr, Rader, and Goldstein in view of the IBM reference and Leipzig, as applied immediately above, further in view of Louis and Hagelstein.

The full text of the examiner's rejections and response to the argument presented by appellant appears in the answer (Paper No. 14), while the complete statement of appellant's argument can be found in the revised brief (Paper No. 13).<sup>4</sup>

#### OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the board has carefully considered appellant's specification and claims,<sup>5</sup> the applied

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<sup>4</sup> All subsequent references to the brief refer to the revised brief. Additionally, we note appellant's commentary regarding the lack of a translation of the Leipzig reference (brief, pages 14, 15, 18, and 19). A copy of the translation of this reference was provided by the examiner as an attachment to the answer (Paper No. 14). No reply brief was submitted by appellant.

<sup>5</sup> While certain claims include obvious informalities there- in, we nevertheless comprehend the metes and bounds thereof which enables us to address the content thereof relative to the applied prior art. For example, we understand claim 3 as including keys which serve an alphabetic function and additionally a numeric function. In claim 7 (and similarly in claim 17), we understand "Numeric function" to denote --Numeric, function--. In claim 12, line 2; claim 15, line 2; and claim 18, line 2, we understand "said alphabetical keys" to correspond to the "alphabetic keys" earlier recited  
(continued...)

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teachings,<sup>6</sup> and the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determinations which follow.

The rejection under 35 U.S.C. § 112, first paragraph

We affirm the rejection of claims 1 and 3 through 8.

This rejection, focusing upon the lack of support in the original disclosure for language added to claim 1 (Paper No. 3), clearly addresses the description requirement of 35 U.S.C. § 112, first paragraph.

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<sup>5</sup>(...continued)  
in parent claims 11, 14, and 17, respectively.

<sup>6</sup> In our evaluation of the applied teachings, we have considered all of the disclosure of each teaching for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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The description requirement is separate and distinct from the enablement requirement. That one skilled in the art might realize from reading a disclosure that something is possible is not a sufficient indication to that person that the something is part of an appellant's invention. See In re Barker, 559 F.2d 588, 591, 194 USPQ 470, 472 (CCPA 1977), cert. denied, 434 U.S. 1064 (1978). The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. Further, the content of the drawings may also be considered in determining compliance with the written description requirement.

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See Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1562-63, 19  
USPQ2d 1111, 1116 (Fed. Cir. 1991) and In re Kaslow, 707 F.2d  
1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

Appellant's specification (page 2) indicates that an  
embodiment of the invention

has palm and wrist restraints so that left  
and right keyboards can be used without  
resting the keyboard on a flat surface  
(lines 7 and 8).

At page 6 of the specification, a right hand rest 70 and a  
left hand rest 74 are described. The spacing between the  
upper and lower halves 72, 73 of the rests may be adjusted

to hold the wrist and palm of the user  
snugly so that right hand keyboard need not  
rest on a hard surface (lines 14 and 15).

Page 6 further explains that

[r]ight hand and left hand keyboards with  
hand rests as described may be used with  
the operator's hands and keyboards in her  
pocket (lines 18 and 19).

Initially, we note that it is clear to us that the  
reference to a "hard" or "flat" surface in the specification



denotes a surface of a structural entity, i.e., a surface other than a surface on the body of a user. Accordingly, based upon the underlying disclosure, it is apparent to this panel of the board that an artisan would understand that, in use, the disclosed keyboard need not rest upon a flat or hard surface, but may be used with the keyboard in a pocket, i.e., the keyboard rests on the bottom of a pocket (neither a flat nor hard surface).

In our opinion, an artisan would not fairly appreciate from the overall original underlying disclosure any inference at all that a user's body alone (hand, wrist, or arm) was, in fact, intended to be the sole support for the appellant's keyboard in use. Thus, we believe it fair to say that the recitation in claim 1 that the right and left hand keyboard may be operated "independently of supporting

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surfaces" lacks descriptive support in the original disclosure.<sup>7</sup>

The argument advanced by appellant (brief, pages 6 and 7) that the disclosure is clearly enabling simply does not convince us that the subject matter at issue in independent claim 1 and claims 3 through 8 dependent thereon is descriptively supported by the original disclosure.

The rejection under 35 U.S.C. § 112, second paragraph

We reverse the rejection of claims 20 and 21.

We certainly comprehend the examiner's perception of these claims as being quite broad. However, the circumstance that a claim is broad does not automatically render the claim indefinite. See In re Miller, 441 F.2d 689, 693, 169 USPQ

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<sup>7</sup> We note that appellant understands (brief, page 10) claim 1 as addressing keyboard segments which may be operated "independently of supporting surfaces," as compared to prior art keyboards that require supporting surfaces (McCall, Lahr, Rader, and Goldstein).

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597, 600 (CCPA 1971). In the present case, we conclude that the content of claims 20 and 21 can be reasonably understood, notwithstanding the breadth thereof. Since the metes and bounds of the claimed subject matter are ascertainable, the claims are not indefinite.

The rejection under 35 U.S.C. § 102(b)

We reverse the rejection of claim 1, but affirm the rejection of claim 20.

The segmented computer keyboard of claim 1 requires, inter alia, a left and right hand keyboard that may be operated "independently of supporting surfaces." Following our analysis of claim 1, supra, this quoted recitation is taken to mean that the operation of the keyboard is carried out independent of supporting structural surfaces. In other words, the language clearly infers operation of the keyboard while only being supported by a user.

A review of the applied teachings indicates to us that, in particular, the noted limitation in claim 1 is not fairly readable thereon. McCall teaches a split keyboard (Figure 1) supported in use on a stand S. The splittable keyboard of Lahr (Figure 3) is supported in use upon a track 40. The left and right keypads of Rader (Figures 1 and 2) are indicated to be supported in use on a desktop or on the armrests of a chair. Goldstein reveals a keyboard divided into segments that is supported on a desk. These teachings simply do not teach a handheld or user held computer keyboard that is operated "independently of supporting surfaces," as claimed. Thus, claim 1 is not anticipated by these respective prior art teachings.

We turn now to claim 20. This claim broadly recites a keyboard having keys (at least two keys) that serve a multiple purpose as "alphabetic keys" and "numeric keys."

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The broad language of claim 20 is anticipated by conventional keys of a typical keyboard, as represented by the applied references. For example, the computer keyboard of Rader (column 1, line 7, through column 2, line 29) has conventional

keys, i.e., a number of keys, which serve a multiple purpose as alphabetic keys and numeric keys. Thus, like appellant's multiple purpose keys, e.g., alphabetic key "P" for the purpose of denoting a "P" and numeric key "<sup>3</sup> O" for the purpose of denoting a "3," typical keyboards such as that of Rader (Figure 3) likewise include keys which serve a multiple purpose, i.e., an alphabetic key "P" for the purpose of denoting a "P" and a numeric key "3" for the purpose of denoting a "3." Accordingly, broad claim 20 is appropriately rejected under 35 U.S.C. § 102(b).

The argument presented by appellant relative to claim 20 (brief, pages 10 and 11) is not convincing. Simply stated, it is apparent to us that appellant has not

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appreciated the breadth of claim 20 and the readability thereof upon the applied prior art.

The obviousness rejections

At the outset we note that an obviousness question cannot be approached on the basis that an artisan having ordinary skill would have known only what they read in references, because such artisan must be presumed to know something about the art apart from what the references disclose. See In re Jacoby,

309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962). Further, a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. See In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

With the above in mind, we understand from the "BACKGROUND OF THE INVENTION" section of appellant's

disclosure that, at the time of the present invention, computer keyboards included a large number of additional keys required to operate computers, e.g., function keys, which, according to appellant, have made computer keyboards large and bulky.<sup>8</sup>

The rejection of claims 3 through 9, 11, 12, 14, 15  
17, 18, 21, and 22

We reverse the rejection of claims 3 through 7 under 35 U.S.C. § 103.

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<sup>8</sup> We recognize that known computer keyboards reflect the longstanding practice of using a single key for multi-functions or multi-purposes, which practice effects a smaller keyboard size as compared to the larger keyboard size that would be required if the keyboard had one separate key for each specific function. For example, it is well known in the art that rather than including separate keys for upper and lower case letters, a single key can represent both, with the shift key selecting the caps letter form over the lower case letter form. Further, it is well known to continuously switch the entire group of lower case letters to the caps form by including a caps lock key. Similarly, the NumLock key can continuously and alternatively switch the group of multi-purpose or multi-function numeric/arrow and numeric/directional word function keys between their numeric function and their directional function. Thus, the practice of joining functions into multi-function or multi-purpose keys is seen to be longstanding and well known to those having ordinary skill in the keyboard art.

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These claims depend from claim 1, drawn to a segmented computer keyboard, and thereby include the recitation that the segmented keyboard may be operated "independently of supporting surfaces." Our review of the applied references indicates to us that the applied prior art would not have been suggestive of such a segmented computer keyboard that operates "independently of supporting surfaces."

We affirm the rejection of claims 8, 9, 11, 12, 14, 15, 17, 18, and 21.

Prior to addressing the applied prior art, this panel of the board notes that we have fully considered and comprehend the content of each of these specified claims.

The respective patents to McCall, Lahr, Rader, and Goldstein are viewed as reflecting keyboards with typical keys.



For example, we focus upon the Rader teaching as representative of a segmented computer keyboard (Figure 1 and Figure 2) that includes the conventional QWERTY arrangement with typical function keys, cursor control keys, etc. (column 1, lines 7 through 23).<sup>9</sup>

From our perspective, the IBM and Leipzig references each clearly carry forward, in the computer keyboard art, the earlier mentioned longstanding practice of relying upon individual keys, each of which is multi-purpose or multi-function.

In particular, the IBM reference addresses a handheld computer keyboard that includes 12 keys (Figure 1), inclusive of 2 mode selection keys, and a space-cursor bar (Figure 3). Each of the keys, other than the mode keys, encode three functions or

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<sup>9</sup> The applied prior art is seen to be akin to the known keyboards addressed by appellant in the "BACKGROUND OF THE INVENTION" section of the specification as to typical keys and functions.

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characters for each of the modes in which the keyboard may be operated. One mode selection key affords a choice between upper

case and lower case modes for alphabetic characters, and the other can select the edit/PF (programmable function) mode or special/numeric character mode. As seen in Figure 1, a single key performs alphabetic and numeric functions.

The Leipzig reference teaches a keyboard with 13 keys, as shown in the sole figure, wherein a single key performs alphabetic and numeric functions. Three tables reveal how each of nine keys incorporates a large number of purposes and functions.

In applying the test for obviousness,<sup>10</sup> we reach the conclusion that it would have been obvious to one having ordinary skill in the art, from a combined assessment of the applied prior art, to modify the keys of a typical computer keyboard, e.g., the keyboard of Rader, by combining the already known functions of single keys, e.g., alphabet keys, with the known function of other keys, e.g., arrow keys or function keys, to further effect additional multi-purpose or multi-function keys. From our standpoint, the incentive on the part of one having ordinary skill in the art for making this modification would have simply been to gain the art-recognized and expected advantage thereof, i.e., fewer keys on the keyboard, as clearly disclosed by either the IBM reference or Leipzig. For this reason, we determine that the subject matter of each of claims

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<sup>10</sup> The test for obviousness is what the combined teachings of references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

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8, 9, 11, 12, 14, 15, 17, 18, and 21 is unpatentable under 35 U.S.C. § 103.

While we fully appreciate appellant's point of view as to the patentability of the claims 8, 9, 11, 12, 14, 15, 17, 18, and 21 as expressed in the brief (pages 11 through 15), this panel of the board is not persuaded thereby. We are aware of appellant's assessment of the respective teachings of the IBM reference and Leipzig as not exhibiting a standard arrangement of keys and numbers. Notwithstanding appellant's perception of these latter teachings, the evidence as a whole clearly informs us that the content of appellant's claims would have been suggested to one having ordinary skill in the art.

We reverse the rejection of claim 22 under 35 U.S.C. § 103.

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Akin to the subject matter of claim 1, claim 22 addresses a segmented computer keyboard that "may be operated without resting the keyboard on a surface."

As was the case with our determination relative to claims 1 and 3 through 7, *supra*, we conclude that the content of claim 22 is not taught and would not have been suggested by the applied teachings. The evidence relied upon simply does not suggest a segmented computer keyboard that may be operated without resting the keyboard on a surface.

The rejection of claims 10, 13, 16, and 19

We affirm this rejection of appellant's claims under 35 U.S.C. § 103.

These dependent claims set forth the additional feature of the generation of a tone to alert an operator when any keys other than certain specified keys are operated.

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The examiner applies the respective teachings of Louis and Hagelstein which reflect the use of audible sounds and tones relative to keyboard operation. In particular, Hagelstein teaches the use of a sound (wrong musical note) when a wrong letter is typed. This latter disclosure is somewhat akin to the typical and common circumstance with known computers whereby a sound is generated indicating to an operator that an action cannot be taken while another action is pending and therefore required to be taken.

Considering the overall knowledge and level of skill in the art at the time of appellant's invention, it is apparent to us that generating an appropriate tone in the modified keyboard as discussed in the affirmed rejection of claims 8, 9, 11, 12, 14, 15, 17, 18, and 21 would have been obvious to one having ordinary skill in the computer keyboard art. As we see it, the incentive on the part of one having ordinary skill in the art for including the feature of tone

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generation would have simply been to gain the expected and known advantage of informing or alerting the operator.

As to the argument advanced by appellant in the matter of the rejection of claims 10, 13, 16, and 19, we do not find ourselves persuaded thereby. Appellant's focus upon the specific teachings of each of Louis and Hagelstein fails to take into

account what the entirety of their teachings together would have suggested to one having ordinary skill in the keyboard. With that perspective, we have concluded that the subject matter of claims 10, 13, 16, and 19 would have been obvious.

#### NEW GROUND OF REJECTION

Under the authority of 37 CFR § 1.196(b), this panel of the board introduces the following new ground of rejection.

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Claim 22 is rejected under 35 U.S.C. § 112, first paragraph, as being based upon an underlying original disclosure which lacks descriptive support for the invention now claimed.

For purposes of brevity, we simply incorporate herein, in its entirety, our earlier discussion, *supra*, relating to the lack of descriptive support for claim 1 (35 U.S.C. § 112, first paragraph).

A review of appellant's original disclosure reveals to this panel of the board a lack of support therein for the segmented computer keyboard of claim 22 which requires, *inter alia*, that it "may be operated without resting the keyboard on a surface." Accordingly, claim 22 is appropriately rejected under 35 U.S.C. § 112, first paragraph.

In summary, this panel of the board has:



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affirmed the rejection of claims 1 and 3 through 8  
under 35 U.S.C. § 112, first paragraph;

reversed the rejection of claims 20 and 21 under  
35 U.S.C. § 112, second paragraph;

reversed the rejection of claim 1 under 35 U.S.C.  
§ 102(b) as being anticipated by each of McCall, Lahr,  
Rader, and Goldstein, but affirmed the rejection of claim 20  
on the same ground;

reversed the rejection of claims 3 through 7 under  
35 U.S.C. § 103 as being unpatentable over McCall, Lahr,  
Rader,  
and Goldstein in view of the IBM reference and Leipzig,  
affirmed the rejection of claims 8, 9, 11, 12, 14, 15, 17, 18,  
and 21 on

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the same ground, and reversed the rejection of claim 22 on the same ground; and

affirmed the rejection of claims 10, 13, 16, and 19 under 35 U.S.C. § 103 as being unpatentable over McCall, Lahr, Rader, and Goldstein in view of the IBM reference, Leipzig, Louis, and Hagelstein.

Additionally, we have introduced a new rejection of claim 22 pursuant to our authority under 37 CFR § 1.196(b).

The decision of the examiner is affirmed-in-part.

In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122

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(Oct. 21, 1997)). 37 CFR § 1.196(b) provides that "[a] new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision. . . .

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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Should the appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

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AFFIRMED-IN-PART  
37 CFR § 1.196(b)

	HARRISON E. McCANDLISH	)	
	Senior Administrative Patent Judge	)	
		)	
		)	
		)	BOARD OF
PATENT		)	
	IRWIN CHARLES COHEN	)	APPEALS
AND		)	
	Administrative Patent Judge	)	
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